UNIT 2

Child and adolescent psychopathology

Symptomatic Disorders: Enuresis, Encopresis, Somnambulism, Tics, and Tourette's Syndrome

Enuresis

Definition: Enuresis is characterized by involuntary urination, especially during sleep (nocturnal enuresis), in children older than 5 years, beyond the age when bladder control is typically achieved. DSM-5 categorizes enuresis into primary (no prior bladder control) and secondary (loss of bladder control after achieving continence for at least six months).

Prevalence:

- Common in childhood, with prevalence rates of 5-10% at age 5, 3-5% at age 10, and about 1% in adolescence and adulthood.
- More common in boys than girls.
- Diagnostic Criteria

  A. Repeated voiding of urine into bed or clothes, whether involuntary or intentional.
  B. The behavior is clinically significant as manifested by either a frequency of at least twice a week for at least 3 consecutive months or the presence of clinically significant distress or impairment in social, academic (occupational), or other important areas of functioning.
  C. Chronological age is at least 5 years (or equivalent developmental level).
  D. The behavior is not attributable to the physiological effects of a substance (e.g., a diuretic, an antipsychotic medication) or another medical condition (e.g., diabetes, spina bifida, a seizure disorder).
  E. Specify whether:
  Nocturnal only: Passage of urine only during nighttime sleep. F98.0
  Diurnal only: Passage of urine during waking hours.
  Nocturnal and diurnal: A combination of the two subtypes above

Diagnostic Features

The essential feature of enuresis is the repeated voiding of urine during the day or at night into bed or clothes (Criterion A). The voiding is usually involuntary, but occasionally it may be intentional. To qualify for a diagnosis of enuresis, the voiding of urine must occur at least twice a week for at least 3 consecutive months or must cause clinically significant distress or impairment in social, academic (occupational), or other important areas of functioning (Criterion B). The individual must have reached an age at which continence is expected (i.e., a chronological age of at least 5 years or, for children with developmental delays, a mental age of at least 5 years) (Criterion C). The urinary incontinence is not attributable to the physiological effects of a substance (e.g., a diuretic, an antipsychotic medication) or another medical condition (e.g., diabetes, spina bifida, ectopic ureter in a female, posterior urethral valves in a male, tethered cord, a seizure disorder) (Criterion D).

Associated Features

- During nocturnal enuresis, occasionally, the voiding takes place during rapid eye movement (REM) sleep, and the child may recall a dream that involved the act of urinating.
- During daytime (diurnal) enuresis, the child defers voiding until incontinence occurs, sometimes because of a reluctance to use the toilet as a result of social anxiety or a preoccupation with school or play activity.
- The enuretic events most commonly occur in the early afternoon on school days or after returning from school.
- Children with executive functioning problems and other neurological problems that may be associated with symptoms of disruptive behavior may be at high risk for urinary incontinence without sensory awareness.
- It is not uncommon for children with daytime urinary incontinence and the nocturnal-and-diurnal subtype of enuresis to have persistence of incontinence after appropriate treatment of associated infection.

Development and Course

- Enuresis can follow two courses: a "primary" type, in which the individual has never established urinary continence, and a "secondary" type, in which the disturbance develops after a period of established urinary continence.
- There are no differences in the prevalence of comorbid mental disorders between the two types. By definition, primary enuresis begins at age 5 years.
- The most common time for the onset of secondary enuresis is between ages 5 and 8 years, but it may occur at any time.
- Most children with the disorder become continent by adolescence, but in approximately 1% of cases, the disorder continues into adulthood.
- Diurnal enuresis is uncommon after age 9 years. While occasional diurnal incontinence is not uncommon in middle childhood, it is substantially more common in those who also have other co-occurring mental health problems, including cognitive and behavioral problems. When enuresis persists into late childhood or adolescence, the incontinence may resolve, but urinary frequency generally persists, and incontinence can recur later in adulthood in women.

Causes:

1. **Biological Factors**:
    - Genetic predisposition: Enuresis often runs in families, with children of enuretic parents at higher risk.
    - Maturational delay: Slower development of bladder control mechanisms.
    - Hormonal imbalance: Low levels of antidiuretic hormone (ADH) can lead to increased nighttime urine production.
2. **Psychosocial Factors**:
    - Stressful life events (e.g., parental divorce, school transitions).
    - Family dysfunction: High levels of anxiety or conflict can impede the child's emotional and behavioral regulation.

- Faulty learning: Inadequate toilet training or lack of reinforcement for appropriate toileting behaviors.

3. **Comorbidity:**
   Although most children with enuresis do not have a comorbid mental disorder, the prevalence of comorbid behavioral and developmental symptoms is higher in children with both diurnal and nocturnal enuresis than in children without incontinence.
4. Developmental delays, including speech, language, learning, and motor skills delays, are also present in a portion of children with enuresis.
5. Encopresis and constipation are present in both day and night incontinence. Restless legs syndrome and parasomnias such as non–rapid eye movement sleep arousal disorders (sleepwalking and sleep terror types) are associated with nocturnal enuresis.
6. Additionally, there is a link between nocturnal enuresis and heavy snoring or sleep apnea. Approximately 50% of enuretic children with proven sleep-disordered breathing will become dry by undergoing adenotonsillectomy. Urinary tract infections are more common in children with daytime urinary incontinence and nonmonosymptomatic nocturnal enuresis, especially the diurnal subtype, than in those who are continent.
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Treatment and Intervention Plans:

- **Behavioral Interventions**:
  - The **bell-and-pad method**: A classical conditioning technique that pairs bladder tension with a waking response to prevent accidents. This method has a high success rate.
  - Positive reinforcement: Rewarding dry nights to motivate children.
- **Pharmacological Interventions**:
  - Desmopressin (synthetic ADH): Reduces urine production during the night.
  - Anticholinergic medications: Help increase bladder capacity.
- **Family Counseling**:
  - Addressing familial stressors and involving parents in supportive roles.
  - Educating families about the non-volitional nature of enuresis to reduce stigma.

Encopresis

Definition: Encopresis is the repeated passage of feces in inappropriate places (e.g., clothing, floor) in children over the age of 4, either involuntarily or intentionally. It is classified as a type of elimination disorder.

Diagnostic Criteria

A. Repeated passage of feces into inappropriate places (e.g., clothing, floor), whether involuntary or intentional.

B. At least one such event occurs each month for at least 3 months.

C. Chronological age is at least 4 years (or equivalent developmental level).

D. The behavior is not attributable to the physiological effects of a substance (e.g., laxatives) or another medical condition except through a mechanism involving constipation.

Specify whether: With constipation and overflow incontinence: There is evidence of constipation on physical examination or by history. F98.1 Without constipation and overflow incontinence: There is no evidence of constipation on physical examination or by history.

Subtypes

- Feces in encopresis, “with constipation and overflow incontinence” subtype, are characteristically (but not invariably) poorly formed, and leakage can be infrequent to continuous, occurring throughout the day and at times during sleep. Only part of the feces is passed during toileting, and the incontinence resolves after treatment of the constipation.

- In the “without constipation and overflow incontinence” subtype, feces are likely to be of normal form and consistency, and soiling is intermittent. Feces may be deposited in a 403 prominent location. This is usually associated with the presence of oppositional defiant disorder or conduct disorder or may be the consequence of anal masturbation. Soiling without constipation is less common than soiling with constipation.

Associated Features

The child with encopresis often feels ashamed and may wish to avoid situations (e.g., camp, school) that might lead to embarrassment. The amount of impairment is a function of the effect on the child's self-esteem, the degree of social ostracism by peers, and the anger, punishment, and rejection on the part of caregivers. Smearing feces may be deliberate or accidental, resulting from the child’s attempt to clean or hide feces that were passed involuntarily. When the incontinence is clearly deliberate, features of oppositional defiant disorder or conduct disorder may also be present. Many children with encopresis and chronic constipation also have enuresis symptoms and may have associated urinary reflux in the bladder or ureters that may lead to chronic urinary infections, the symptoms of which may remit with the treatment of constipation.

Prevalence:

- Approximately 1% of 5-year-olds are affected.
- More common in boys, with a gender ratio of approximately 6:1.

Causes:

1. **Physiological Factors**:
    - Chronic constipation: Leads to painful defecation, which reinforces stool retention and enlarges the colon.
    - Neurological or muscular dysfunction affecting bowel control.
2. **Psychological Factors**:
    - Inadequate toilet training or negative experiences related to defecation.

    - Stressful life changes, such as the birth of a sibling or starting school.
    - Underlying anxiety or oppositional defiant behaviors.
3. **Environmental Factors**:
    - Family conflict or lack of attention to the child's toileting needs.

Treatment and Intervention Plans:

- **Medical Management**:
    - Laxatives or stool softeners to relieve constipation and facilitate regular bowel movements.
    - Regular medical follow-ups to monitor gastrointestinal health.
- **Behavioral Therapy**:
    - Scheduled toileting: Encouraging the child to sit on the toilet at regular intervals.
    - Reinforcement strategies: Providing rewards for appropriate bowel habits.
- **Psychological Interventions**:
    - Cognitive-behavioral therapy (CBT): Addressing any underlying emotional disturbances or oppositional behaviors.
    - Family therapy: Educating parents to create a supportive and non-punitive environment.

Key Concepts and Terms

Four distinct sleep stages can be measured by polysomnography: REM sleep and three stages of NREM sleep (N1, N2, and N3).

REM sleep, during which the majority of typical story-like dreams occur, occupies about 20%–25% of total sleep.

NREM sleep stage 1 (N1) is a transition from wakefulness to sleep and occupies about 5% of time spent asleep in healthy adults.

NREM sleep stage 2 (N2), which is characterized by specific electroencephalographic waveforms (sleep spindles and K complexes), occupies about 50% of time spent asleep.

NREM sleep stage 3 (N3) (also known as slow-wave sleep) is the deepest level of sleep and occupies about 20% of sleep time in healthy, younger adults.

These sleep stages have a characteristic temporal organization across the night. N3 tends to occur in the first one-third to one-half of the night and increases in duration in response to sleep deprivation. REM sleep occurs cyclically throughout the night, alternating with NREM sleep about every 80–100 minutes. REM sleep periods increase in duration toward the morning. Human sleep also varies characteristically across the life span. After relative stability with large amounts of slow-wave sleep in childhood and early adolescence, sleep continuity and depth deteriorate across the adult age range.

This deterioration is reflected by increased wakefulness and N1 sleep and decreased N3 sleep. Because of this, age must be considered in the diagnosis of a sleep disorder in any individual.

Parasomnias are disorders characterized by abnormal behavioral, experiential, or physiological events occurring in association with sleep, specific sleep stages, or sleep-wake transitions. The most common parasomnias are non–rapid eye movement (NREM) sleep arousal disorders and rapid eye movement (REM) sleep behavior disorder. These conditions each have distinct pathophysiology, clinical characteristics, and prognostic and therapeutic considerations discussed in the following sections specific to each disorder.

Somnambulism (Sleepwalking)

Definition: Somnambulism, or sleepwalking, involves episodes of walking or performing complex behaviors during deep non-REM sleep. The individual typically has no memory of the event.

Sleepwalking is the repeated episodes of rising from bed during sleep and walking about. The individual has a blank, staring face; is relatively unresponsive to the efforts of others to communicate with him or her; and can be awakened only with great difficulty

Diagnostic criteria

A. Recurrent episodes of incomplete awakening from sleep, usually occurring during the first third of the major sleep episode.

B. No or little (e.g., only a single visual scene) dream imagery is recalled. **C**. Amnesia for the episodes is present.

D. The episodes cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

E. The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse or a medication).

F. Coexisting mental disorders and medical conditions do not explain the episodes of sleepwalking or sleep terrors.

F51.3 Sleepwalking type

With sleep-related eating

With sleep-related sexual behavior(sexsomnia)

Associated Features

Sleepwalking episodes involve a variety of behaviors that may begin with confusion, such as sitting up in bed, looking around, or fiddling with bedding. As the episode progresses, individuals may leave their bed to walk into closets, exit rooms, or even buildings, and they might engage in routines like using the bathroom, eating, or talking. Although most behaviors are relatively simple, some individuals have been known to unlock doors or operate machinery, like driving. Inappropriate actions may also occur, such as urinating in closets. Episodes generally last from a few minutes to half an hour, and injuries sustained may not be felt until after awakening.

There are two specialized forms of sleepwalking:

sleep-related eating behavior, where individuals eat without conscious awareness and may consume inappropriate items, and

sexsomnia, which involves a range of sexual activities occurring during sleep without awareness. This condition is more prevalent in males and can create serious interpersonal and legal issues.

Development and Course

NREM sleep arousal disorders occur most commonly in childhood and diminish in frequency with increasing age. Sleepwalking and sleep terrors are frequently outgrown following infancy and childhood and become less frequent by adolescence, with remission rates between 50% and 65%; for individuals ages 10–18 years, frequency is reported at 1.1% for sleepwalking and 0.6% for sleep terrors. Violent or sexual activity during sleepwalking episodes is more likely to occur in adults. The onset of sleepwalking in adults with no history of sleepwalking as children should prompt a search for specific etiologies, such as obstructive sleep apnea, nocturnal seizures, or effect of medication.

Typically, sleepwalking in both children and adults is not associated with significant mental disorders. However, in adults, there is an association between sleepwalking and major depressive episodes and obsessive-compulsive disorder. Children or adults with sleep terrors may have elevated scores for depression and anxiety on personality inventories.

Prevalence:

- Common in childhood, with prevalence ranging from 1% to 5%.
- Episodes tend to decline with age and are more frequent during sleep deprivation or stress periods.

Causes:

1. **Biological Factors**:
    - Genetic predisposition: Sleepwalking often runs in families.
    - Central nervous system immaturity: More common in children due to incomplete brain maturation.
2. **Environmental Triggers**:
    - Sleep deprivation or irregular sleep schedules.
    - Stress or anxiety.
    - Fever or illness.
3. **Medical Conditions**:
    - Sleep apnea or restless leg syndrome may disrupt normal sleep architecture.

Treatment and Intervention Plans:

- **Safety Measures**:
    - Removing sharp objects or locking windows and doors to prevent injury during episodes.
    - Installing motion detectors or alarms to alert caregivers.

- **Behavioral Strategies**:
    - Maintaining a consistent sleep schedule.
    - Preemptive awakening: Gently waking the individual before the usual time of sleepwalking.
- **Medical Interventions**:
    - Treating underlying conditions, such as sleep apnea.
    - Rare cases may benefit from low-dose benzodiazepines.

Tics

Definition: Tics are sudden, rapid, involuntary movements or vocalizations. They can be categorized as:

- **Simple tics**: Brief, repetitive movements like blinking or throat clearing.
- **Complex tics**: Coordinated patterns of movements or speech, such as jumping or repeating phrases.

Diagnostic Criteria

Note: A tic is a sudden, rapid, recurrent, nonrhythmic motor movement or vocalization.

Tourette's Disorder

A. Both multiple motor and one or more vocal tics have been present at some time during the illness, although not necessarily concurrently.

B. The tics may wax and wane in frequency but have persisted for more than 1 year since first tic onset.

C. Onset is before age 18 years.

D. The disturbance is not attributable to the physiological effects of a substance (e.g., cocaine) or another medical condition (e.g., Huntington's disease, postviral encephalitis). Persistent (Chronic) **Motor or Vocal Tic Disorder**

A. Single or multiple motor or vocal tics have been present during the illness, but not both motor and vocal.

B. The tics may wax and wane in frequency but have persisted for more than 1 year since first tic onset. F95.0

C. Onset is before age 18 years.

D. The disturbance is not attributable to the physiological effects of a substance (e.g., cocaine) or another medical condition (e.g., Huntington's disease, postviral encephalitis).

E. Criteria have never been met for Tourette's disorder.

Specify if:

With motor tics only

With vocal tics only

Provisional Tic Disorder

A. Single or multiple motor and/or vocal tics.

B. The tics have been present for less than 1 year since first tic onset.

C. Onset is before age 18 years.

D. The disturbance is not attributable to the physiological effects of a substance (e.g., cocaine) or another medical condition (e.g., Huntington's disease, postviral encephalitis).

E. Criteria have never been met for Tourette's disorder or persistent (chronic) motor or vocal tic disorder. Specifiers The "motor tics only" or "vocal tics only" specifier is only required for persistent (chronic) motor or vocal tic disorder.

Diagnostic Features of Tic Disorders

- **Categories**:
  - Tourette's disorder
  - Persistent (chronic) motor or vocal tic disorder
  - Provisional tic disorder
  - Other specified and unspecified tic disorders
- **Diagnostic Criteria (A-E)**:
  - **Criterion A**: Presence of motor and/or vocal tics.
  - **Criterion B**: Duration of tics (≥1 year for Tourette's or persistent disorders; <1 year for provisional tic disorder).
  - **Criterion C**: Onset before age 18.
  - **Criterion D**: Exclude other medical conditions or substance use as causes.
  - **Criterion E**: Diagnoses are hierarchical; higher-level diagnoses preclude lower ones.
- **Tic Characteristics**:
  - Sudden, rapid, recurrent, nonrhythmic movements or vocalizations.
  - May involve premonitory sensations or an "urge" to tic.
  - Tics are typically involuntary but can be voluntarily suppressed temporarily.
- **Simple vs. Complex Tics**:
  - **Simple motor tics**: Short, specific movements (e.g., blinking, shoulder shrugging).
  - **Simple vocal tics**: Short sounds (e.g., throat clearing, sniffing).
  - **Complex motor tics**: Longer, combined movements, sometimes imitative (e.g., echopraxia, copropraxia).

    - **Complex vocal tics**: Linguistic or repetitive (e.g., echolalia, palilalia, coprolalia).
- **Specific Disorders**:
    - **Tourette's disorder**: Both motor and vocal tics (not necessarily concurrent).
    - **Persistent motor/vocal tic disorder**: Only motor or only vocal tics.
    - **Provisional tic disorder**: Motor and/or vocal tics for <1 year.
    - **Other specified/unspecified tic disorders**: Atypical presentations or known etiologies.
- **Key Facts**:
    - Tics often wax and wane; tic-free intervals don't negate diagnosis.
    - Average onset: 4–6 years old; rare in adults unless secondary to another cause.
    - New-onset tics in adulthood require evaluation for alternative causes.
    - Coprolalia lacks prosody and is distinct from inappropriate speech in interactions.
- **Exclusions**:
    - Not due to substances or medical conditions.
    - Previous diagnoses (e.g., Tourette's disorder) preclude lower-level diagnoses.

Features, Risk Factors, and Course Modifiers of Tic Disorders

Premonitory Sensations and Urges

- Localized bodily sensations often precede tics.
- Describing these sensations/urges can be difficult.
- Tics with premonitory urges may feel partially "voluntary" as urges can be resisted.
- Some individuals repeat tics until they feel "just right."
- Relief and tension reduction often follow tic expression.

Co-occurring Conditions

- **Children**: More likely to have ADHD, OCD, and separation anxiety disorder.
- **Teenagers/Adults**: Higher risk of mood disorders, anxiety disorders, and substance use disorders.

Risk and Prognostic Factors

- **Environmental Factors**:
    - Advanced paternal age.
    - Pre-/perinatal complications (e.g., impaired fetal growth, maternal smoking, preterm birth, cesarean delivery).
- **Genetic and Physiological Factors**:

    - High heritability (70%–85%).
    - Shared genetic variance with OCD, ADHD, and autism spectrum disorder.
    - Linked to rare genetic variants and common risk alleles across severity spectrum.
    - Associated with autoimmune disorders (e.g., Hashimoto's thyroiditis).
    - Immune system and neuroinflammation may play roles (e.g., Sydenham's chorea).

Course Modifiers

- Tics worsen with anxiety, excitement, or exhaustion.
- Tics improve during calm, focused activities.
- Stressful/exciting events (e.g., tests, competitions) often exacerbate tics.
- Focused attention and motor control tasks may reduce tic frequency.

Prevalence:

- Typically emerge between the ages of 5 and 10.
- More common in boys than girls.

Causes:

1. **Neurological Factors**:
    - Abnormal dopamine activity in the basal ganglia.
    - Genetic predisposition: Often seen in families with a history of tics or OCD.
2. **Environmental Factors**:
    - Stress and anxiety exacerbate tic severity.
    - Prenatal or perinatal complications, such as low birth weight or maternal smoking.

Treatment and Intervention Plans:

- **Behavioral Therapy**:
    - Habit reversal training (HRT): Teaching the individual to recognize premonitory urges and replace tics with alternative behaviors.
- **Medication**:
    - Dopamine blockers or depleters (e.g., haloperidol, pimozide) to reduce tic frequency.
    - Alpha-2 adrenergic agonists (e.g., clonidine) for milder cases.
- **Psychoeducation**:
    - Educating families and schools about tics to reduce stigma and create supportive environments.

Tourette's Syndrome

Definition: Tourette's syndrome is a chronic neurodevelopmental disorder involving multiple motor tics and at least one vocal tic persisting for more than a year. Symptoms fluctuate in severity and are often accompanied by comorbid conditions such as OCD or ADHD.

Prevalence:

- Affects approximately 0.3% to 0.8% of the population.
- More common in males, with onset typically between ages 4 and 6.

Causes:

1. **Genetic Factors**:
    - Strong familial inheritance patterns suggest a genetic predisposition.
2. **Neurological Factors**:
    - Dysregulation in the cortico-striatal-thalamo-cortical (CSTC) circuits.
    - Abnormal dopamine transmission.
3. **Environmental Factors**:
    - Prenatal stressors, such as maternal smoking or complications during birth.
    - Psycho-social stress can exacerbate tics.

Treatment and Intervention Plans:

- **Behavioral Therapy**:
    - Comprehensive Behavioral Intervention for Tics (CBIT): A structured program combining HRT with relaxation techniques and problem-solving strategies.
- **Pharmacological Treatments**:
    - Antipsychotics (e.g., risperidone, aripiprazole) for severe tics.
    - SSRIs for comorbid OCD or anxiety.
- **Supportive Interventions**:
    - School-based accommodations to manage associated ADHD or learning difficulties.
    - Peer and family support groups to reduce stigma and promote coping strategies.

Conclusion

The symptomatic disorders enuresis, encopresis, somnambulism, tics, and Tourette's syndrome each highlight the complex interplay between biological, psychological, and environmental factors. Comprehensive intervention plans, encompassing medical, behavioral, and psychological approaches, are essential for effectively addressing these conditions and improving the quality of life for affected individuals and their families.